

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 29 Jan 96	3. REPORT TYPE AND DATES COVERED FINAL - 01 JUL 92 TO 30 JUN 95
----------------------------------	-----------------------------	--

4. TITLE AND SUBTITLE FLAMMABILITY AND KINETIC ANALYSIS OF THE DRY CARBON MONOXIDE FLAME	5. FUNDING NUMBERS F49620-92-J-0397 2304/BS 61102F
---	--

6. AUTHOR(S) DR RICHARD TAM	
--------------------------------	--

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) INDIANA UNIVERSITY-PURDUE UNIVERSITY AT INDIANAPOLIS DEPARTMENT OF MATHEMATICAL SCIENCES 402 N. BLACKFORD STREET INDIANAPOLIS, INDIANA 46202-3216	AFOSR-TR-96 C0095
--	----------------------

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) AFOSR/NM 110 DUNCAN AVE, SUITE B115 BOLLING AFB DC 20332-0001	10. SPONSORING/MONITORING AGENCY REPORT NUMBER F49620-92-J-0397
--	--

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION AVAILABILITY STATEMENT DISTRIBUTION STATEMENT A Approved for public release Distribution Unlimited	12b. DISTRIBUTION CODE
--	------------------------

13. ABSTRACT (Maximum 200 words) Preliminary studies on a simplified kinetic model for the hydrogen flame confirm the existence of the shock-like structure in flame temperture space for the logarithm of the mass burning rate that had been discovered previously in the study of the carbon monoxide flame; notably; the mass buring rate undergoes a multiplicative jump in contrast to the additive jump in regualr shock waves.	
---	--

19960320 060

14. SUBJECT TERMS	15. NUMBER OF PAGES
-------------------	---------------------

16. PRICE CODE

17. SECURITY CLASSIFICATION OF THIS REPORT	18. SECURITY CLASSIFICATION ON THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED

INDIANA UNIVERSITY
PURDUE UNIVERSITY
INDIANAPOLIS

Dept of Mathematical Sciences
Indiana University-
Purdue University at Indianapolis
Indianapolis IN 46202
Dec 13, 1995

SCHOOL OF SCIENCE



Grant Administration Division
AFOSR
Bolling Air Force Base DC 20332

To whom it may concern

Enclosed please find the technical report for
Grant #F49620-92-J-0397 covering research
activities during the period June 1, 1994 -
May 31, 1995.

Richard Y. Tam
Richard Y. Tam
Associate Professor,
Mathematical Sciences

DEPARTMENT OF
MATHEMATICAL SCIENCES

402 N. Blackford Street
Indianapolis, Indiana
46202-3216

317-274-6918
Fax: 317-274-3460

cc P. McKeough

A handwritten signature in black ink, appearing to read "Richard Y. Tam".

INDIANA UNIVERSITY
PURDUE UNIVERSITY
INDIANAPOLIS

Technical Report 6/1/94 - 5/31/95
Grant #F49620-92-J-0397

SCHOOL OF SCIENCE



Preliminary studies on a simplified kinetic model for the hydrogen flame confirm the existence of the shock-like structure in flame temperature space for the logarithm of the mass burning rate that had been discovered previously in the study of the carbon monoxide flame; notably, the mass burning rate undergoes a multiplicative jump in contrast to the additive jump in regular shock waves.

There are no publications during this period.

Manuscript "Flammability and Kinetic Analysis of the Dry Carbon Monoxide Flame" is reorganized into two sections for submittal.

DEPARTMENT OF
MATHEMATICAL SCIENCES

402 N. Blackford Street
Indianapolis, Indiana
46202-3216

317-274-6918
Fax: 317-274-3460